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PREVALENCE OF MALOCCLUSION AMONG SCHOOL CHILDREN IN JAMMU CITY

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ABSTRACT

Aim: was to find out the prevalence of malocclusion among school going children in Jammu city. **Material and method**: The study was conducted from August 2017 to February 2019. Five schools were randomly selected among all the schools in Jammu city and a random sample of 1000 school children aged 10-15 years old were selected. The examinations were conducted at schools, by one set of orthodontists with the subject seated on a chair with adequate natural light and a total number of 15-20 children were examined per day. Malocclusion was assessed using Angles Molar Classification. **Results**: The results showed that Angle Class I molar relation was found in 74.6%, Class II molar relation in 23.3% and Class III molar relation in 2.1% of the subjects. **Conclusion:** Efforts should be made on a larger scale to obtain a base line data based upon which various public health strategies could be formulated.

KEYWORDS: School children; Malocclusion, Angle**.**

INTRODUCTION

Malocclusion is undoubtedly a public health concern in young populations. Orthodontic anomalies have been associated with psychosocial distress,[1] poor periodontal condition,[2] and impaired masticatory function,[3] and so should be regarded as a health problem. While there is evidence that certain features such as traumatic deep overbite, unprotected incisors and impacted teeth may adversely affect the longevity of the dentition, the relationship of dental irregularity to periodontal disease, caries and mandibular dysfunction is less certain.[4]

Developing countries like India are struggling to eradicate many medical and dental diseases. The main reason behind this is an inadequate implementation of preventive oral health care programmes which need a sound base of epidemiological data. Epidemiological studies on occlusion and malocclusion not only help in orthodontic treatment planning and evaluation of dental health services but also offer a valid research tool for ascertaining the operation of distinct environmental and genetic factors in the aetiology of malocclusion.[5]

Early prevention and interception of a disease can reduce the burden of cost and more expensive treatment modalities on the nation. Extensive multicentric studies are required to obtain a countrywide representative data. This study was an effort to find out the prevalence of malocclusion among school going children in Jammu city.

MATERIAL AND METHOD

The study was conducted from August 2017 to February 2019. Five schools were randomly selected among all the schools in Jammu city and a random sample of 1000 school children aged 10-15 years old were selected. Approval of ethical committee was obtained from the department of dental sciences. School authorities and parents of sampled children were notified about purposes of the study. Those children were included having age group of 10-15 years, no major local/systemic problems or trauma which affects the growth and development of facial structures or body and no orthodontic or interceptive treatment carried out. Any child not fulfilling the stated criteria was excluded from the study.

The examinations were conducted at schools, by one set of orthodontists with the subject seated on a chair with adequate natural light and a total number of 15-20 children were examined per day. No radiographs were taken. Basic infection control procedures in Hand Hygiene and personal protective equipment (PPE) were adopted. The instruments and supplies were used were PMT sets, Cheek retractors, Enamel bowls, Kidney trays, Disposable mouth masks, Disposable gloves and Towels. PMT sets were used maximum twice and then discarded. Alcohol based antiseptic solution (3 M Hand Rub) was used for hand hygiene after washing with soap and water. All survey forms were filled up after the examination of children by one orthodontist. Malocclusion was assessed using Angles Molar Classification.[6]

Statistical analysis

Data were tabulated and examined using the Statistical Package for Social Sciences Version 20.0 (IBM SPSS Statistics for Mac, Armonk, NY: IBM Corp, USA). Descriptive statistical analysis had been carried out in the present study. Prevalence of malocclusion was assessed by determining the percentage of children affected.

RESULTS

Out of 1000 subjects, 602 (60.2%) were males and 398 (39.8%) were females with mean age of 12.82 years. Angle Class I molar relation was found in 74.6%, Class II molar relation in 23.3% and Class III molar relation in 2.1% of the subjects (table 1).

Table 1: Distribution of malocclusion among the study subjects.

Molar relation	N	%
Class I	746	74.6
Class II	233	23.3
Class III	21	2.1

DISCUSSION

The development of a uniform method of epidemiological assessment and grading of malocclusion has been of interest for several decades. An orthodontic index is a numerical scale that is derived by scoring specific features of a malocclusion to objectively assess some parameters such as how far a malocclusion varies from an ideal occlusion.[7] For any health setup which provides orthodontic care to dependents, data regarding the prevalence of malocclusion and need for orthodontic treatment is required. As the general awareness about esthetics is on high, demand for orthodontic treatment is on rise among the children.

One of the major hindrances to get uniform data related to prevalence of malocclusion in India is because of its variable ethnic groups. Malocclusion has a negative impact on the oral health related quality of life of adolescents. Adolescents who complete orthodontic treatment report fewer oral health impacts on their daily life activities than those who had never had treatment. Groups of children who need orthodontic treatment exhibit significantly higher impacts on their emotional and social well-being.[8]

Several studies have been published to describe the prevalence and types of malocclusions in different populations. Comparisons of these findings must be done cautiously, because different methods and indices were used in varying age and race of populations. On comparing distribution of rating for IOTN in school population to several studies like Brook & Shaw,[9] Neslihan & Ertugay,[10] and Hosseinzadeh et al.[11] showed higher prevalence and high percentage of samples required need for orthodontic treatment than this study. The results of this study can be compared with the studies of Souames et al,[12] N'agom et al,[13] and Dhar et al.[14] Comparing various studies of prevalence of malocclusion in India, it was found that it is in not agreement with many studies which showed a rage of 14.4-96.5%. Most of the studies done were not used any internationally acceptable indices for the purpose of the study.

CONCLUSION

Efforts should be made on a larger scale to obtain a base line data based upon which various public health strategies could be formulated. A risk–benefit analysis should be done and treatment should be instituted only when the perceived benefits in commencing treatment at that time outweigh the potential risks. A significant problem in epidemiological studies is the lack of uniformity in the measurement criteria between various studies since there is no universally accepted index for measuring malocclusion and most of them show significant intra and inter examiner variability. Further research would therefore be needed to develop better indices or to improve the available indices so that they can be universally standardized and epidemiologically accepted.

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